

Claims

1. Valve, especially a proportional seat valve or gate valve, having a valve housing (10) and at least three fluid ports (1, 2, 3) extending through the valve housing, and with a main piston (18) guided in the valve housing (10) and a pilot piston (24) which effects pilot control (26) and which can be actuated by a magnet means (28) which can carry current, characterized in that with the pilot control (26) opened, fluid travels from one (2) of the two ports (1, 2) which can be actuated by the main piston (18) by way of a cross-sectional constriction (38) in the main piston (18) and the pilot control (26) to the third port (3) which can be actuated by the pilot piston (24) and that as a result of the accompanying pressure drop the main piston (18) travels into a respective control position which can actuate the two fluid ports (1, 2) in terms of the amount of fluid.
2. The valve as claimed in claim 1, wherein between the main piston (18) and the pilot piston (24) there is a compression spring (46) and wherein the piston lift of the main piston (18) with the pilot control (26) opened is proportional to the magnet current of the magnet means (28).
3. The valve as claimed in claim 2, wherein the compression spring (46) engages a recess (44) of the main piston (18) into which the cross-sectional constriction (38) in the form of an orifice discharges, on the free end of the compression spring (46) which is assigned to the pilot piston (24) there being a contact piece (48) which is connected to the free end of the pilot piston (24) by way of a contact ball (50).
4. The valve as claimed in claim 2, wherein there is a selector valve (94) in the main piston (18) and wherein the selector valve (94) has a cross-sectional constriction (38).

5. The valve as claimed in one of claims 1 to 4, wherein the magnet means (28) has at least one armature (34), a coil (32), and a pole tube (36) and is designed as a pushing or pulling system, i.e., that the armature (34) is moved out of or into the pole tube (36) when the coil (32) is supplied with current, and wherein when using a pulling system another compression spring moves the pilot piston (24) in the direction of opened pilot control (26).
6. The valve as claimed in one of claims 1 to 5, wherein the pilot control (26) is designed as a gate valve in which the pilot piston (24), which is cylindrical at least on its free end, is guided so as to be movable in the longitudinal direction into a corresponding longitudinal recess (52) in parts (10a) of the valve housing 10.
7. The valve as claimed in one of claims 1 to 5, wherein the pilot control (26) is designed as a seat valve in which on the free end of the pilot piston (24) there is a closing and sealing part (102) which interacts with a seat part (104), formed by parts (10a) of the valve housing (10).
8. The valve as claimed in one of claims 1 to 7, wherein there are additional sealing parts in the form of a sealing system (110) on the outer circumference of the pilot piston (24).
9. A valve system, consisting of a valve with the features of one of claims 1 to 8, which can be used in conjunction with a known pressure compensator (90) as an adjustable metering orifice of a flow regulator.